AMENDMENTS TO THE CLAIMS

1. (Original) A method for transmitting packet data from a user equipment (UE) to Node Bs in a code division multiple access (CDMA) mobile communication system, wherein a plurality of the Node Bs are adjacent to each other, and the UE is located in the soft handover region occupied by the Node Bs, the method comprising the steps of:

receiving scheduling commands transmitted from the Node Bs;

determining scheduling control information by combining weighted scheduling commands, which are determined considering weighting factors; and

transmitting the packet data to the Node Bs according to the determined scheduling control information,

wherein the weighting factors is determined individually for the scheduling commands.

2. (Original) The method of claim 1, wherein each of the plurality of weighting factors is determined considering a physical position and a cell size of each of the Node Bs by a radio network controller (RNC) for managing the Node Bs.

3. (Original) The method of claim 2, wherein as the cell size decreases, a higher weighting factor is applied.

4. (Cancelled)

5. (Cancelled)

6. (Currently Amended) The method of claim 1, wherein the step of determining the scheduling control information comprises the steps of:

comparing a random variable x, which is randomly generated within a range between 0 and k, with a threshold T_{send}, which is calculated based on a weighting factor corresponding to each of the Node Bs, where k is a maximum value of combined information values ~~by~~

~~$T_{send} = k \sum_{n=1}^{N} w_n \times grant_n$, where w_n denotes a weighting factor previously determined for each of the scheduling commands, and $grant_n$ denotes packet data transmission allowability of each pf the Node Bs~~;

outputting a final scheduling grant value indicating transmission possibility of the packet data according to the comparison result;

multiplying maximum data rates of the Node Bs, which are provided as the scheduling commands by the weighting factors ~~previously~~ individually determined for the scheduling commands;

adding the maximum data rates multiplied by the weighting factors;

dividing the addition result by k, which a sum of the weighting factors; and

outputting the division result as a final maximum data rate.

7. (Currently Amended) The method of claim 1, wherein the step of determining the scheduling control information comprises the steps of:

calculating a combined information value~~bit~~ by multiplying packet data allowability information bits of the Node Bs provided as the scheduling commands by the weighting factors ~~previously~~, individually determined for the scheduling commands and adding up the multiplication results;

comparing the combined information value~~bit~~ with a random variable x, which is randomly generated within a range between 0 and k~~1~~;

outputting a final scheduling grant value indicating transmission possibility of the packet data according to the comparison result;

multiplying maximum data rates of the Node Bs provided as the scheduling commands by the weighting factors ~~previously~~, individually determined for the scheduling commands;

adding the maximum data rates multiplied by the weighting factors; and

outputting the addition result as a final maximum data rate.

8. (Currently Amended) The method of claim 1, wherein the step of determining the scheduling control information comprises the steps of:

calculating a combined information value~~bit~~ by multiplying packet data allowability information bits of the Node Bs provided as the scheduling commands by the weighting factors ~~previously~~, individually determined for the scheduling commands and adding up the multiplication results;

comparing the combined information value~~bit~~ with a threshold T_{send}, which is provided from a radio network controller (RNC);

outputting a final scheduling grant value indicating transmission possibility of the packet data according to the comparison result;

multiplying maximum data rates of the Node Bs provided as the scheduling commands by the weighting factors ~~previously~~, individually determined for the scheduling commands;

adding the maximum data rates multiplied by the weighting factors; and

outputting the addition result as a final maximum data rate.

9. (Currently Amended) The method of claim 8, wherein if the combined information value~~bit~~ is ~~at least~~ equal to or greater than the threshold T_{send}, the final scheduling grant value indicates that transmission of the packet data is possible, and if the combined information value~~bit~~ is lower than the threshold T_{send}, the final scheduling grant value indicates that transmission of the packet data is impossible.

10. (Currently Amended) The method of claim 1, wherein the step of determining the scheduling control information comprises the steps of:

calculating a combined control command bit by multiplying control command bits of the Node Bs provided as the scheduling commands by the weighting factors ~~previously~~, individually determined for the scheduling commands and adding up the multiplication results;

comparing the combined control command bit with an upper threshold T_{up} and a lower threshold T_{down};

outputting a final control command bit according to the comparison result;

controlling a ~~previously~~ used maximum allowed data rate according to the final control command bit; and

outputting the controlled maximum allowed data rate as a maximum allowed data rate for transmitting the packet data.

11. (Currently Amended) The method of claim 10, wherein the step of outputting the final control command bit comprises the steps of:

outputting the final control command bit for requesting an increase in the ~~previously~~ used maximum allowed data rate, if the combined control command bit is larger than the upper threshold T_{up};

outputting the final control command bit for requesting a hold of the ~~previously~~ used maximum allowed data rate, if the combined control command bit is not larger than the upper threshold T_{up} and is larger than the lower threshold T_{down}; and

outputting the final control command bit for requesting a decrease in the ~~previously~~ used maximum allowed data rate, if the combined control command bit is not larger than the lower threshold T_{down}.

12. (Currently Amended) The method of claim 10, wherein the weighting factors ~~previously~~, individually determined for the scheduling commands, the upper threshold T_{up}, and the lower threshold T_{down} are provided through a radio resource control (RRC) message from a radio network controller (RNC) for managing the Node Bs.

13. (Currently Amended) The method of claim 10, wherein a sum of the weighting factors ~~previously~~, individually determined for the scheduling commands is <u>k</u>~~1~~.

14. (Currently Amended) An apparatus for transmitting packet data from a user equipment (UE) to Node Bs in a code division multiple access (CDMA) mobile communication system, <u>wherein</u> ~~includingwherein~~ a plurality of the Node Bs <u>are</u> ~~beingare~~ adjacent to one each another, and the UE is located in the soft handover region occupied by the Node Bs, the apparatus comprising:

a scheduling command combiner for receiving scheduling commands transmitted from the Node Bs, and determining scheduling control information by combining weighted scheduling commands, which are determined considering weighting factors; and

a packet transmitter for transmitting the packet data to the Node Bs according to the scheduling control information

wherein the weighting factors is determined individually for the scheduling commands.

15. (Original) The apparatus of claim 14, wherein the packet transmitter determines a transport format according to maximum data rate information included in the scheduling control information and a status of a data buffer storing the packet data, and transmits the packet data to the Node Bs according to the transport format, if it is determined from the scheduling control information that transmission of the packet data is possible.

16. (Original) The apparatus of claim 14, wherein each of the weighting factors is determined by a radio network controller (RNC) that manages the Node Bs, considering a physical position and a cell size of each of the Node Bs.

17. (Original) The apparatus of claim 16, wherein as the cell size decreases, a higher weighting factor is applied.

18. (Currently Amended) The apparatus of claim 14, wherein the scheduling command combiner comprises:

a scheduling grant value generator for (i) comparing a random variable x, which is randomly generated within a range between 0 and 1, with a threshold T_{send}, which is calculated based on a weighting factor corresponding to each of the Node Bs, where k is a maximum value of a combined information value, ~~by~~ $\cancel{T_{send} = 1 - \sum_{n=1}^{N} w_n \times grant_n}$ ~~, where w_n denotes a weighting factor previously determined for each of the scheduling commands, and $grant_n$ denotes packet data transmission allowability of each of the Node Bs,~~ and (ii) outputting a final scheduling grant

value indicating transmission possibility of the packet data according to the comparison result; and

a maximum data rate generator for multiplying maximum data rates of the Node Bs, which are provided as the scheduling commands by the weighting factors ~~previously~~, individually determined for the scheduling commands, adding the maximum data rates multiplied by the weighting factors, and outputting the addition result as a final maximum data rate.

19. (Original) The apparatus of claim 18, wherein the scheduling grant value generator outputs the final scheduling grant value indicating that transmission of the packet data is possible, if the random variable x is at least equal to the threshold T_{send}, and outputs the final scheduling grant value indicating that transmission of the packet data is impossible, if the random variable x is smaller than the threshold T_{send}.

20. (Currently Amended) The apparatus of claim 14, wherein the scheduling command combiner comprises:

a scheduling grant value generator for comparing a random variable x, which is randomly generated within a range between 0 and k, with a threshold T_{send}, which is calculated based on a weighting factor corresponding to each of the Node Bs, where k is a maximum value of a combined information value ~~by~~ $\cancel{T_{send} = k - \sum_{n=1}^{N} w_n \times grant_n}$ ~~, where w_n denotes a weighting factor previously determined for each of the scheduling commands, and $grant_n$ denotes packet data transmission allowability of each of the Node Bs~~, and outputting a final scheduling grant value indicating transmission possibility of the packet data according to the comparison result; and

a maximum data rate generator for multiplying maximum data rates of the Node Bs, which are provided as the scheduling commands by the weighting factors ~~previously~~, individually determined for the scheduling commands, adding the maximum data rates multiplied by the weighting factors, dividing the addition result by k, and outputting the division result as a final maximum data rate.

21. (Currently Amended) The apparatus of claim 14, wherein the scheduling command combiner comprises:

a scheduling grant value generator for calculating a combined information bit by multiplying packet data allowability information bits of the Node Bs, which are provided as the scheduling commands by the weighting factors ~~previously~~, individually determined for the scheduling commands, adding the addition results, comparing the combined information bit with a random variable x, which is randomly generated within a range between 0 and k~~1~~, and outputting a final scheduling grant value indicating transmission possibility of the packet data according to the comparison result; and

a maximum data rate generator for multiplying maximum data rates of the Node Bs, which are provided as the scheduling commands by the weighting factors ~~previously~~, individually determined for the scheduling commands, adding the maximum data rates multiplied by the weighting factors, and outputting the addition result as a final maximum data rate.

22. (Currently Amended) The apparatus of claim 14, wherein the scheduling command combiner comprises:

a scheduling grant value generator for calculating a combined information bit by multiplying packet data allowability information bits of the Node Bs, which are provided as the scheduling commands by the weighting factors ~~previously~~, individually determined for the scheduling commands, adding the multiplication results, comparing the combined information bit with a threshold T_{send} provided from a radio network controller (RNC), and outputting a final scheduling grant value indicating transmission possibility of the packet data according to the comparison result; and

a maximum data rate generator for multiplying maximum data rates of the Node Bs, which are provided as the scheduling commands by the weighting factors ~~previously~~, individually determined for the scheduling commands, adding the maximum data rates multiplied by the weighting factors, and outputting the addition result as a final maximum data rate.

23. (Original) The apparatus of claim 22, wherein the scheduling grant value generator outputs the final scheduling grant value for indicating that transmission of the packet data is

possible, if the combined information bit is at least equal to the threshold T_{send}, and outputs the final scheduling grant value for indicating that transmission of the packet data is impossible, if the combined information bit is lower than the threshold T_{send}.

24. (Currently Amended) The apparatus of claim 14, wherein the scheduling command combiner comprises:

a plurality of multipliers for multiplying control command bits of the Node Bs, which are provided as the scheduling commands by the weighting factors ~~previously~~, individually determined for the scheduling commands;

an adder for adding the control command bits multiplied by the weighting factors, and outputting a combined control command bit; and

a comparator for comparing the combined control command bit with an upper threshold T_{up} and a lower threshold T_{down}, and outputting a final control command bit according to the comparison result.

25. (Original) The apparatus of claim 24, further comprising:

a memory for storing a maximum allowed data rate used for transmitting previous packet data; and

an allowed data rate calculator for reading the previously used maximum allowed data rate from the memory, controlling the previously used maximum allowed data rate according to the final control command bit, and outputting a final allowed data rate for transmitting the packet data.

26. (Original) The apparatus of claim 25, wherein the comparator (i) outputs the final control command bit for requesting an increase in the previously used maximum allowed data rate, if the combined control command bit is larger than the upper threshold T_{up}, (ii) outputs the final control command bit for requesting a hold of the previously used maximum allowed data rate, if the combined control command bit is not larger than the upper threshold T_{up} and is larger than the lower threshold T_{down}, and (iii) outputs the final control command bit requesting a

decrease in the previously used maximum allowed data rate, if the combined control command bit is not larger than the lower threshold T_{down}.

27. (Currently Amended) The apparatus of claim 24, wherein the weighting factors ~~previously~~, individually determined for the scheduling commands, the upper threshold T_{up}, and the lower threshold T_{down} are provided through a radio resource control (RRC) message from a radio network controller (RNC) for managing the Node Bs.

28. (Currently Amended) The apparatus of claim 24, wherein a sum of the weighting factors ~~previously~~, individually determined for the scheduling commands is <u>k</u>~~1~~.

29. (Currently Amended) A method for applying at least one of a plurality of weighting factors for each of a plurality of cells by a radio network controller (RNC) that manages the plurality of cells so that a user equipment (UE) located in a soft handover region can transmit packet data according to scheduling commands from the plurality of cells considering the weighting factors, in a code division multiple access (CDMA) mobile communication system, wherein a plurality of the cells are adjacent to each other, and the UE is located in the soft handover region occupied by the cells, the method comprising the steps of:

calculating each of the plurality of weighting factors to be in inverse proportion to a radius ~~r_i~~ of each of the plurality of cells ~~and to be in proportion to a particular value k defined $\sum_{i=1}^{N} k/r_i = 1$, where N denotes~~<u>taking into consideration</u> a number of the cells; and

transmitting the weighting factors individually calculated for the cells to the UE through a radio resource control (RRC) message.

30. (Currently Amended) The method of claim 29, wherein a weighting factor for a particular cell ~~is~~<u>can be</u> calculated <u>to be proportional to a signal strength</u> ~~as a quotient obtained by dividing the particular value k by the radius r_i~~ of the particular cell <u>in addition to the radius r_i of each of the plurality of cells</u>.

31. (Currently Amended) A method for applying a weighting factor for a cell by a radio network controller (RNC) that manages a plurality of cells so that a user equipment (UE) located in a soft handover region can transmit packet data according to scheduling commands from the plurality of cells considering a plurality of weighting factors, in a code division multiple access (CDMA) mobile communication system, wherein a plurality of the cells are adjacent to each other, and the UE is located in the soft handover region occupied by the cells, the method comprising the steps of:

receiving from the UE a path loss γ_i, which is determined according to a strength of a common pilot signal measured for each of the plurality of cells;

calculating the plurality of weighting factors <u>by dividing a particular value k by the path loss γ_I of each of the plurality of cells</u> ~~to be in inverse proportion to the path loss γ_i of each of the plurality of cells and to be in proportion to a particular value k defined by $\sum_{i=1}^{N} k/\gamma_i = 1$, where N denotes a number of the cells~~; and

transmitting the weighting factors individually calculated for each of the plurality of cells to the UE through a radio resource control (RRC) message.

32. (Currently Amended) The method of claim 31, wherein a weighting factor for a particular cell <u>can be calculated to be proportional to a signal strength</u> ~~is calculated as a quotient obtained by dividing the particular value k by the path loss γ_i measured for~~ the particular cell <u>in addition to the path loss γ_I of the plurality of cells</u>.